

USE OF METAL ALLOYS IN MICROMACHINED DEVICES

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Abstract of the Disclosure

A micromechanical device is provided, which includes at least one flexible member formed from an alloy, where the alloy is made up of one or more noble metals and one or more alloying elements, wherein each of the alloying elements has an equilibrium solid solubility in the noble metal, and wherein the one or more alloying elements are present in an amount that does not result in precipitates. A method for making a micromechanical device includes depositing an alloy on a substrate to form at least one flexible member, the alloy comprising one or more noble metals and one or more alloying elements, wherein the one or more alloying elements form a solid solution with the one or more noble metals; and removing a portion of the substrate or a sacrificial layer beneath the deposited alloy layer to obtain a flexible member.